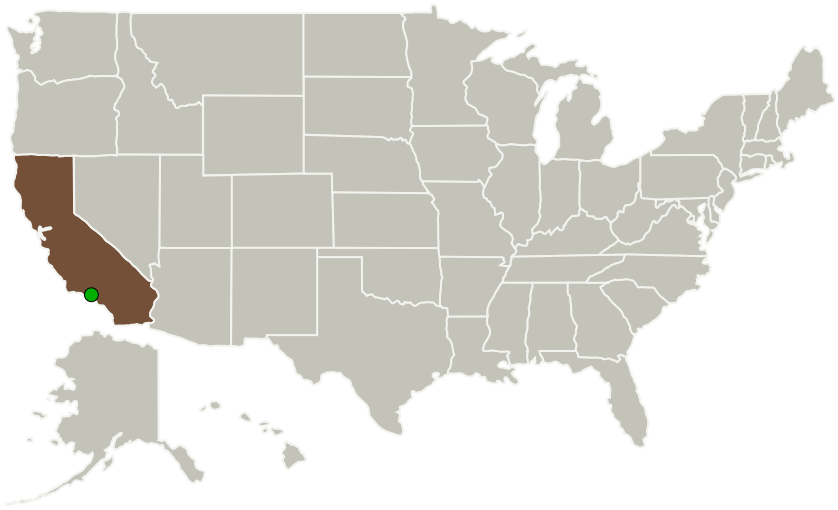
Springback-Compensated, Submillimeter Reflectors, Phase I

Completed Technology Project (2010 - 2010)

Project Introduction

Inconsistent radius of curvature of replicated, composite reflector panels limit application of composites to large, segmented telescope apertures. This project proposes to characterize, compensate for, and optimize the behavior of affordable, graphite composite reflector sandwich panels suitable for large aperture, sub-millimeter space and earth science instruments. Advances in understanding and optimizing sandwich panel behavior may enable science missions to obtain new levels of technical performance. Future NASA missions including the Cornell Caltech Atacama Telescope (CCAT) and Global Atmospheric Composition Mission (GACM), require 1 to 4 meter aperture, submillimeter-wavelength, primary reflector (mirror) segments.

Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
Vanguard Composites Group, Inc.	Lead Organization	Industry	San Diego, California
Jet Propulsion Laboratory(JPL)	Supporting Organization	NASA Center	Pasadena, California

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Primary U.S. Work Locations
California

Project Transitions

January 2010: Project Start

July 2010: Closed out

Closeout Documentation:

- Final Summary Chart*(https://techport.nasa.gov/file/137911)*

Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Organization:

Vanguard Composites Group, Inc.

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

Project Management

Program Director:

Jason L Kessler

Program Manager:

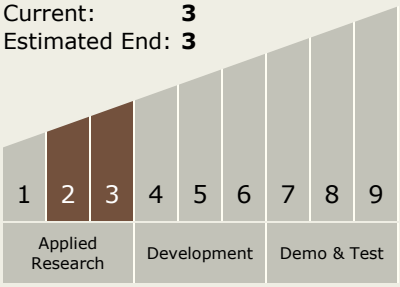
Carlos Torrez

Principal Investigator:

Duane Krumweide

Technology Maturity (TRL)

Start: **2**
Current: **3**
Estimated End: **3**



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Technology Areas

Primary:

- TX08 Sensors and Instruments
  - TX08.2 Observatories
    - TX08.2.1 Mirror Systems

Target Destinations

The Sun, Earth, The Moon, Mars, Others Inside the Solar System, Outside the Solar System